

**Remarks/Arguments**

Claims 1-17, 20, and 23-28 are pending in the application. Claim 29 is newly presented for a first action on the merits. As 24 claims have been paid for, and as a 25<sup>th</sup> claim is presented herewith, fee payment for excess dependent claims accompanies this response.

In the Office Action mailed August 22, 2007, claims 1, 2, 5, 8, 12 – 14, 24 – 26, and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over newly-cited U.S. Patent No. 4,715,543 to Rinkewich (hereinafter referred to as “Rinkewich”); and, claims 4, 6, 7, 10, 20, 23, and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rinkewich in view of newly-cited U.S. Patent No. 5,330,107 to Karathanos. In addition, claims 9 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rinkewich in view of U.S. Patent No. 4,226,368 to Hunter (hereinafter referred to as “Hunter”), and claims 15 – 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rinkewich in view of U.S. Patent No. 4,909,441 to Christy (hereinafter referred to as “Christy”). It was indicated that Claim 3 would be allowable if rewritten in independent to include the features of the base claim and any intervening claims.

In a telephone interview conducted with Applicant’s representatives conducted on October 11, 2007 (hereinafter referred to as “the October 11, 2007 interview”), the Examiner clarified his application of Rinkewich to the present claims. The Examiner asserted that the then-pending claims would read on the emitter of Rinkewich if the emitter were secured at a closed end of a pipe. Accordingly, it was indicated by the Examiner that the positive recitation in all independent claims of a pipe having a *second open end* away from the emitter, a flow-restricting path, and a drip outlet *connected to the flow restricting path and directing fluid from the flow restricting path to the second open end of the pipe* away from the emitter, *wherein all fluid which*

*exits the pipe exits from the second open end of the pipe*, would likely overcome the prior art of Rinkewich. This indication is noted with appreciation, and such positive recitation is reflected in the above amendments.

It is respectfully submitted that the above amendments introduce no new matter into this application. Support for the above amendments may be found in the specification as originally filed, including *inter alia* on page 5 (“a drip outlet 26 in fluid communication with a second (distal) end 28 of the pipe...water passing through the extruded pipe 14 would exit from the distal end 28 under low pressure, in drops 32;” “leaving a passage for the flow only via the flow labyrinth 50;”) and in Figure 2.

#### **REJECTIONS UNDER 35 U.S.C. 103(a)**

The Examiner rejected claims 1, 2, 5, 8, 12 – 14, 24 – 26, and 28 under 35 U.S.C. 103(a) as being unpatentable over Rinkewich; rejected claims 4, 6, 7, 10, 20, 23, and 27 under 35 U.S.C. 103(a) as being unpatentable over Rinkewich in view of Karathanos; rejected claims 9 and 11 under 35 U.S.C. 103(a) as being unpatentable over Rinkewich in view of Hunter; and rejected claims 15 – 17 under 35 U.S.C. 103(a) as being unpatentable over Rinkewich in view of Christy.

#### **RESPONSE**

To establish a *prima facie* case of obviousness, the Examiner must establish: (1) that some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) that the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

Applicant submits that all of the features of the presently claimed invention are not disclosed, taught or suggested in the cited prior art, and that the cited prior art further teaches away from the presently claimed invention.

Independent claim 1 has been amended, and now recites an extruded pipe comprising a first end, a second open end, and a drip-irrigation plug emitter having an inlet, a flow restricting path and “a drip outlet connected to the flow restricting path and directing fluid from the flow restricting path to [a] second open end of the pipe away from the emitter.” The emitter “plugs the pipe with respect to any fluid flow except for...flow through said flow restricting path” and “all fluid which exits the pipe exits from the second open end of the pipe.” (Present application, Claim 1)

Independent claims 23, 24, and 25 have also been amended to recite similar features.

Rinkewich is drawn to a flow restrictor device having a disc shaped member attachable to a pipe. An annular recess is exposed to pressurized fluid in the pipe, and a metering passageway leads from the annular recess to another face [of the disc shaped member] to be exposed to the atmosphere at a set of outlet openings. (Rinkewich, abstract). In the embodiment cited by the Examiner, the disc shaped member has a “large passageway extending axially therethrough to subject its opposite end faces to the pressure of the fluid in the pipe.” (Rinkewich, summary).

In applying Rinkewich in the present rejection, the Examiner equates the “large passageway” of Rinkewich with the presently claimed inlet, the “metering passageway” of Rinkewich with the presently claimed flow restricting path, and the “outlet openings in the pipe” with the presently claimed drip outlet. In the October 11 interview, the Examiner clarified his rejection, stating that the emitter of Rinkewich, if placed at a closed second end of a pipe, would

cause fluid to flow from a first end of the pipe through the large passageway and out the outlet openings in the wall of the pipe, to produce a drip emitter.

Applicants submit that Rinkewich does not disclose, teach, or suggest the features of claims 1, 23, 24, and 25 as amended.

**Rinkewich does not disclose, teach, or suggest a drip outlet that directs fluid to a second open end of a pipe.**

The present amendments clarify that the pipe has a *second open end away from the emitter*, and that the emitter has a flow restricting path and a drip outlet that directs fluid *from the flow restricting path to the second open end*. (emphases added) In contradistinction, the metering passageway of Rinkewich connects to the outlet openings in the pipe. These outlet openings are not an *open end of the pipe*; they are openings made in the wall of the pipe. Further, these outlet openings are not *away from the emitter*; they are coextensive with the emitters; see col. 2, lines 58 - 62 “the pipe being formed with a plurality of outlet openings 4 spaced longitudinally along the length of the pipe...[and] a plurality of flow restrictor devices...*spaced along the length of the pipe to cover the outlet openings 4*.” (emphasis added). Thus, Rinkewich fails to disclose, teach, or suggest this feature.

**Rinkewich does not disclose, teach, or suggest an emitter that limits fluid flow in the pipe to only a flow restricting path, and then out the second open end of the pipe.**

The present amendments also clarify that the emitter “plugs the pipe with respect to any

fluid flow except for...flow through said flow restricting path,” and that “all fluid which exits the pipe exits from the second open end of the pipe.” The interpretation of Rinkewich applied by the examiner does not meet these limitations, because the interpretation the Examiner relies on requires that the emitter be placed at a closed end of a pipe. Were the end of the pipe to be open, fluid would flow through the pipe not only through the metering passageway (again, equated by the Examiner with the flow restricting path) but also along the large passageway, and therefore the emitter would not “plug[] the pipe with respect to any fluid flow except for...flow through said flow restricting path.” Further, were the end of the pipe to be open, fluid would exit the pipe from two locations: fluid from the large passageway would exit at the open end, while fluid from the metering passageway would exit at the outlet openings. Therefore, all fluid which exits the pipe would not exit “from the second open end of the pipe.” Thus, Rinkewich further fails to disclose, teach, or suggest these features.

**Rinkewich teaches away from the Examiner's interpretation generally.**

The above amendments recite features not found in Rinkewich. Further, applicants traverse the Examiner's interpretation of the Rinkewich reference, and submit that the Examiner's interpretation of this reference directly contradicts the clear teaching of Rinkewich itself. Rinkewich:

1. does not intend for one flow-restrictor to be used per pipe, each pipe having a single opening through which water is output. Instead, Rinkewich intends for a plurality of the disclosed devices to be used in a single pipe with a plurality of openings: see col. 2 lines 58 – 62 (“the pipe being formed with a plurality of outlet openings 4 spaced

longitudinally along the length of the pipe...[and] a plurality of flow restrictor devices...spaced along the length of the pipe to cover the outlet openings 4 and to restrict the flow therethrough of the water to the required slow rate”); see also col. 2 lines 23 and 24 (“relatively uniform rates of output can be produced even in long lines”).

2. does not intend for one flow restrictor to be placed at the end of a pipe. Instead, Rinkewich intends for flow restrictor devices to be placed along the middle of a length of pipe, and not at its end: see col. 2 lines 65 – 67 (“a large passageway 14 extending axially through the member *so as to permit the irrigating water to flow for the complete length of the pipe*”).
3. does not intend for each emitter to have a single output. Rather, Rinkewich intends for each emitter to have multiple outputs: see col. 4, lines 9 – 12 (“[p]referably, tube 2 is formed with a circular array of outlet openings 4 (four such openings being shown in FIG. 3, for example)...”).

Thus, the Examiner's application of Rinkewich as a single emitter, having a single output, placed at a closed end of a pipe could only be made in hindsight, in view of the presently disclosed invention, as Rinkewich teaches away from the Examiner's proposed interpretation.

In any case, the present amendments clarify the invention in a manner that cannot be anticipated or rendered obvious by Rinkewich.

Reconsideration and withdrawal of the rejections over Rinkewich are requested.

**None of Karathanos, Hunter, or Christy, taken alone or in combination, cure the deficiencies of Rinkewich.**

Karathanos is drawn to a self regulation emitter, and is cited by the Examiner for the swelling produced at the outer surface of the pipe. (Karathanos, Abstract and figures) As in Rinkewich, exit holes 3 are placed adjacent to the emitter, a secondary water passage 5 is allows fluid to flow along two distinct passages, and multiple emitters are placed along a single pipe.

Hunter is drawn to a sprinkler head for use in a drip irrigation system, in which pressure dropping chambers comprise a plurality of series interconnected vortices disposed within stacked plates. (Hunter, Abstract)

Christy is drawn to an elastomeric flow control valve, and is cited by the Examiner for its pipe support stakes. (Christy, Abstract; see also the August 22, 2007 Office Action, page 4)

None of Karathanos, Hunter, or Christy, taken alone or in combination, cure the deficiencies of Rinkewich. None of these references discloses, teaches, or suggests an extruded pipe comprising a first end, a second open end, and a drip-irrigation plug emitter having an inlet, a flow restricting path and “a drip outlet connected to the flow restricting path and directing fluid from the flow restricting path to [a] second open end of the pipe away from the emitter.” Further, none of these references discloses, teaches, or suggests an emitter that “plugs the pipe with respect to any fluid flow except for...flow through said flow restricting path.” Further still, none of these references discloses, teaches, or suggests an emitter and pipe configuration wherein “all fluid which exits the pipe exits from the second open end of the pipe” (present application, independent claim 1 as amended; claims 23, 24, and 25 similar).

Accordingly, Applicant submits that the combination of Rinkewich, Karathanos, Hunter and Christy fails to disclose, teach, or suggest all of the features of independent Claims 1, 23, 24, and 25, and thus of all other pending claims, dependent therefrom. Thus, the Examiner has failed

to make a *prima facie* case of obviousness with respect to the claims as presently presented.

### **ALLOWABLE SUBJECT MATTER**

Applicant acknowledges with appreciation the Examiner's indication that claim 3 would be allowable if rewritten in independent form.

Claim 3 depends from claim 1, which applicant submits is now in condition for allowance. Accordingly, Applicant requests that the Examiner withdraw the outstanding objection to claim 3.

### **NEW CLAIM 29**

Applicant respectfully presents new claim 29 for a first examination on the merits, and submits that this claim is allowable over the cited art of record not only for its dependence from allowable claim 1, but also for reciting a second open end of the pipe which "is not formed in the wall of the pipe." This claim is presented in direct contrast to the Examiner's interpretation of Rinkewich and additionally to the teachings of Karathanos, and recites a structure which directly contradicts the teachings of Rinkewich and Karathanos, in which the outlet of the emitter is clearly formed in the wall of the pipe.

Prompt consideration and allowance of this claim is requested.

### **CONCLUSION**

In light of the foregoing, Applicant submits that the application is now in condition for allowance.



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If the Examiner believes the application is not in condition for allowance, Applicant respectfully requests that the Examiner contact the undersigned attorney if it is believed that such contact will expedite the prosecution of the application.

Respectfully submitted,  
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